

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the captioned patent application.

Listing of Claims

Claims 1-20. (Cancelled)

21. (New) A battery compartment configured such that serially-aligned neighboring batteries installed therein are arranged such a planar terminal surface of a first installed battery abuts an edge of a terminal of a second installed battery.
22. (New) The battery compartment of claim 21, wherein the batteries are dry cell batteries each having a casing with positive and negative terminals disposed on opposing ends of thereof, the casings defining a longitudinal battery axis substantially orthogonal to a planar surface of each terminal, wherein when installed, the longitudinal axes of the batteries lie in a same plane and intersect each other.
23. (New) The battery compartment of claim 21, wherein the batteries are dry cell batteries and wherein the terminal edge is an edge of a positive button of the second battery.
24. (New) The battery compartment of claim 21, wherein the batteries comprise miniature batteries, and wherein the edge of the neighboring battery terminal is an edge of a positive casing of the battery terminal.
25. (New) The battery compartment of claim 21, wherein the first and second batteries each have a casing with positive and negative terminals on opposing ends of thereof, the casings defining a longitudinal axis, wherein when installed, the longitudinal axes of the neighboring batteries intersect each other.

26. (New) The battery compartment of claim 21, wherein the battery compartment is configured to cause the terminal edge of the second battery to scrape against a planar terminal surface of the second battery.

27. (New) The battery compartment of claim 26, wherein a distance between device contacts disposed on opposing ends of the battery compartment is less than the length of the serially aligned batteries, wherein a spring force applied by the device contacts to compress the first and second batteries against each other can be overcome by a force applied to a partially installed second battery that causes a relative lateral movement between the second battery and a previously installed first battery.

28. (New) A battery-powered device comprising:
a battery compartment with positive and negative contacts disposed therein; and
means for minimizing battery-to-battery contact resistance.

29. (New) The device of claim 28, wherein the minimizing means comprises:
means for rupturing an insulating contaminant layer disposed on portions of one or more abutting battery terminals.

30. (New) The device of claim 29, wherein the rupturing means comprises:
a battery case constructed such that a curved edge of the terminal of a first installed battery is in contact with a planar terminal surface of an abutting second installed battery or an abutting device contact; and
means for urging the first installed battery toward the second installed battery or the device contact such that the curved edge of the terminal applies a pressure sufficient to rupture the insulating contaminant layer disposed on the surface of the abutting terminal of the second installed battery or abutting device contact.

31. (New) The device of claim 30, wherein the means for urging the installed batteries toward each other comprises:

at least one device contact disposed in the battery case that applies a spring force along the longitudinal axis of the batteries when the batteries are in their installed position in the battery compartment.

32. (New) The device of claim 29, wherein the rupturing means comprises:

a coiled spring battery contact disposed at one end of the battery compartment, the contact comprising a plurality of concentric windings with a terminal contact point on the upper end turn thereof, the terminal contact point configured to contact an abutting battery terminal surface, the coiled spring contact applying a spring force to an installed battery sufficient to cause the terminal contact point to rupture an insulating contaminant layer on the abutting battery terminal surface.

33. (New) The device of claim 28, wherein the minimizing means comprises:

means for removing an insulating contaminant layer disposed on the portions of the battery terminals that contact each other.

34. (New) The device of claim 33, wherein the removing means comprises:

a battery case constructed such that a curved edge of the terminal of a first installed battery is in contact with a planar terminal surface of an abutting second installed battery or an abutting device contact; and

means for imparting a relative lateral motion between the adjacent batteries and/or between the first installed battery and the device contact when the batteries are installed in the battery compartment, wherein such lateral movement is sufficient to remove at least a portion of the insulating contaminant layer on the surface of the abutting battery terminal or device contact.

35. (New) The device of claim 34, wherein the means for imparting a relative lateral motion comprises:

a coiled spring battery contact comprising a plurality of concentric windings defining an axis of rotation and having a terminal contact point eccentrically located on an upper end turn of the concentric windings, wherein during battery installation the coiled spring contact compresses to cause the terminal contact point to laterally shift in the direction of eccentricity to provide a contact wiping motion against the abutting battery terminal surface with a pressure sufficient to remove the contaminant layer from the terminal surface.

36. (New) The device of claim 33, wherein the means for imparting a relative lateral motion comprises:

the battery compartment configured such that a distance between device contacts disposed on opposing ends of the battery compartment is less than the length of the serially aligned batteries, wherein a spring force applied by the device contacts to compress the batteries against each other can be overcome by a force applied to a partially installed second battery that causes a relative lateral movement between the second battery and a previously installed first battery.

37. (New) The device of claim 28, wherein the battery compartment is implemented in a hand-held scanner.

38. (New) A battery compartment in which installed batteries are arranged with an edge of one battery terminal being the only point of contact between the battery and a planar surface of an adjacent terminal.

39. (New) The battery compartment of claim 38, wherein the adjacent terminal is a terminal of a neighboring battery installed in the same battery compartment.

40. (New) The battery compartment of claim 38, wherein the adjacent terminal is a device contact.

41. (New) The battery compartment of claim 38, wherein the installed batteries are dry cell batteries and wherein the dry cell batteries are arranged such that their longitudinal axes intersect each other at a predetermined angle.

42. (New) The battery compartment of claim 41, wherein the angle is greater than zero degrees and less than an angle at which casings of the battery contact each other to prevent terminal contact.